APPENDIX I
SWINOMISH INDIAN TRIBAL COMMUNITY
FINDINGS OF FACT

I. Introduction

This document contains factual findings upon which the United States Environmental Protection Agency (EPA) is relying in making a decision regarding the Swinomish Indian Tribal Community (Tribe or SITC) Application for treatment in a similar manner as a state (TAS) under Section 518(e) of the Clean Water Act (CWA) for purposes of establishing water quality standards and issuing water quality certifications under CWA Sections 303 and 401. The TAS determination is a separate process from EPA's decision to approve or disapprove a tribe's water quality standards.

The Tribe has made three submissions that comprise its TAS Application. The TAS Application initially was submitted by a June 14, 2006 letter from Ann E. Tweedy, Tribal Attorney, to L. Michael Bogert, EPA Regional Administrator, and included Exhibits 1-29 (Initial Application). The Tribe supplemented its TAS Application with a June 28, 2007 letter from Emily R. Hutchinson, Tribal Attorney, to Richard McAllister, EPA Region 10 Assistant Regional Counsel, "Supplemental Submissions in Support of Swinomish TAS Application", with Exhibits 1-37 (First Supplemental Submission). In response to comments by the Washington Department of Ecology, the Tribe submitted additional supplemental materials in a February 20, 2008 letter from Emily R. Hutchinson, Tribal Attorney, to Richard McAllister, EPA Region 10 Assistant Regional Counsel, "Second Supplemental Submissions in Support of Swinomish TAS Application," with Exhibits 1-26 (Second Supplemental Submission). Together, these three submissions comprise the SITC TAS Application (Application).

The SITC's Application describes features of and activities on the Swinomish Indian Reservation (Reservation). The Reservation, located in the State of Washington north of Seattle, consists of approximately 10,450 acres of land, of which 7,450 acres are uplands and approximately 3,000 acres are tidelands. For purposes of this Application, the Reservation boundary extends to the historical midpoint of the Swinomish Slough (Slough), to the extreme low water tide mark of the southern and western waters surrounding the Reservation, and to a line that trends east from the extreme low water mark of Turner's Bay, then heads north to the extreme low water mark of Padilla Bay. A majority of the Reservation land (seventy-four percent) is owned (1) by the United States and held in trust for the Tribe, (2) by the Tribe and held in fee, or (3) by the United States and held in trust for Tribal members (collectively Tribal lands). The remaining Reservation land is owned in fee by nonmembers of the Tribe.

The Tribe's Application describes in detail the importance of surface water quality to the SITC and its members, and the many ways the Tribe and its members use surface waters. Maps provided by the Tribe show many features of the Reservation, including patterns of land ownership, rights-of-way and easements, surface water bodies, water quality monitoring stations, topography, and land use in accordance with the SITC zoning ordinance.

These Findings of Fact contain information relevant to whether the Tribe can demonstrate that it has inherent authority over nonmember activities on the Reservation affecting water quality. The EPA assesses Tribal authority based upon the actual or potential future impacts of such nonmember activities on the Tribe. Thus, the first section of the Findings of Fact describes the *Montana* "impacts" test EPA uses to assess Tribal authority, and the Clean Water Act functions the Tribe is proposing to carry out. The remaining sections contain factual information regarding actual and potential nonmember activities on the Reservation, and how the impacts of those activities on Reservation water resources do or may affect the Tribe.

This Findings of Fact document supports the Agency's decision to approve the Tribe's Application. The SITC asserts that it has authority to set water quality standards and issue certifications for all waters within the Reservation boundaries. The Agency analyzes a tribe's inherent authority over activities of nonmembers under the test established in *Montana v. United States*, 450 U.S. 544 (1981) (*Montana* test). This document sets forth the Findings of Fact that EPA believes are relevant for our determination regarding the Tribe's assertion of inherent authority to regulate nonmember activities under the *Montana* test (as described in the attached Decision Document) for purposes of the Clean Water Act water quality standards and water quality certification programs. This document discusses nonmember activities on the Reservation, including Tribal lands.

II. Impacts of Actual and Potential Future Activities within the Reservation's Exterior Boundaries on the Political Integrity, Economic Security, and Health or Welfare of the Tribe and its Members

A. Reservation Water Resources

This section presents information on the relationship between nonmember activities within the exterior boundaries of the Reservation and impairment of water quality and beneficial uses of water resources by the Tribe and its members. The facts summarized below from the files of the EPA and from materials submitted by the Tribe are organized to evaluate waters within the Reservation used by the Tribe or Tribal members (and the extent to which the Tribe or Tribal members could be subject to exposure to pollutants present in, or introduced into, those waters) and the waters of the Reservation subject to protection under the CWA. The Tribe has asserted that impairment of such waters on the Reservation would have a serious and substantial effect on the political integrity, economic security, or health or welfare of the Tribe and its members.

The Reservation was established in 1855 by the Treaty with the Duwamish, Suquamish, Etc., 1855, 12 Stat. 927, (Treaty), which was signed January 27, 1855, ratified by the U.S. Congress on March 8, 1859, and proclaimed by the U. S. President on April 11, 1859. *See* Treaty, attached as Exhibit 5 to the initial Application. Now known as the "Treaty of Point Elliott," this Treaty set aside SITC's reservation for the Tribe's exclusive use and occupation. Treaty of Point Elliott, Art. 2. Additionally, Article 5 of the Treaty confirmed SITC's fishing, hunting, and gathering rights. Treaty of Point Elliott, Art. 5. Specifically, the Treaty affirms the "right of taking fish at usual and accustomed grounds and stations . . . together with the privilege of hunting and gathering roots and berries on open and unclaimed lands."

The Reservation consists of all the uplands and submerged lands (lands that are permanently or periodically covered by water) within the exterior boundaries of the Reservation. These lands and adjacent water bodies are generally depicted in the map entitled "General Waterbodies on and around the Swinomish Indian Reservation", which is included as Exhibit 7 to the initial Application. For purposes of the TAS Application, the Reservation includes the Swinomish Channel to the historical midpoint of the Swinomish Slough and extends to the extreme low water mark of the south, west, and north sides of the reservation, which border waterways. *State v. Edwards*, 188 Wash. 467, 470-72, 62 P.2d 1094 (1936).

These exterior boundaries of the Reservation were established by the Treaty of Point Elliot. The Treaty Reservation is described as that part of Fidalgo Island east of a line running from Fidalgo Bay due south to Similk Bay. This boundary line corresponds to a marshy intertidal area that connected Fidalgo and Similk Bays at the time the Treaty was signed. Early maps also depict what is now McGlinn Island as a peninsula on the southeast end of Fidalgo Island, rather than as a separate island, and show that the main body of the Swinomish Slough was to the east of McGlinn Island and the causeway that now connects McGlinn Island to the Town of LaConner on the east side of the present-day Swinomish Channel. *See* Maps and Charts, attached as Exhibits 4 through 10 to the Second Supplemental Submission.

Subsequently, in 1873, President Grant diminished the boundaries of the Reservation by Executive Order on September 9, 1873. *See* Executive Order, attached as Exhibit 6 to the initial Application. The Executive Order moved the northern boundary of the Reservation east so as to exclude the peninsula of land now known as March's Point from within the exterior boundaries of the Reservation.

The Second Supplemental Submission describes how in the 1890s, the United States Army Corps of Engineers began surveying, dredging, diking, and straightening the Swinomish Slough to provide navigable access between Skagit and Padilla Bays at low tide. The Corps cut through lands at the north and south ends of the Slough, isolating on the eastern side of the present-day Swinomish Channel the two oxbows of land at the north end of the Swinomish Channel in Sections 12 and 13, T. 34N R. 2E WM and McGlinn Island and a majority of the

present-day causeway connecting McGlinn Island to the Town of LaConner. Although the oxbows of land at the north end of the Swinomish Channel have now passed out of Indian ownership, the lands were repeatedly surveyed as part of the Reservation, were allotted to Indians in 1885 or 1897, were recognized by the Corps to be Reservation lands prior to the cutting that isolated them from the Reservation, and are therefore within the Reservation boundaries. *See* Exhibits 20 through 26 to the Second Supplemental Submissions. Recently, SITC purchased property interests in McGlinn Island and the majority of the causeway connecting it to the Town of LaConner with funds from a federal appropriation. The Tribe has provided copies of the deeds and Bureau of Indian Affairs documents which show that those lands are held in trust for the Tribe, as well as correspondence from the Washington State Department of Natural Resources and the Skagit County Board of Commissioners recognizing those lands to be within the Reservation boundary. *See* Exhibits 12 through 19 to the Second Supplemental Submissions.

The boundaries of the Reservation extend at least as far as the historical midpoint of the Swinomish Slough (Slough),[1] to the extreme low water mark of the southern and western waters surrounding the Reservation, to a line that trends east from the extreme low water mark of Turners Bay, then north to the extreme low water mark of Padilla Bay. The Regulatory Boundaries Map, attached as Exhibit 7 to the Initial Application, provides a good general representation of the historical midpoint of the Slough and the extreme low water mark on the southern, western, and northern sides of the Reservation based on survey, photographic, and historical data from a variety of sources the Tribe has gathered. However, the actual Reservation boundaries may differ from those depicted in the Regulatory Boundaries Map because the extreme low water mark is not permanently fixed. The Reservation boundaries shown in the maps enclosed as Exhibit 7 to the Initial Application and other maps submitted by the Tribe in support of the Application comprise the area over which the Tribe is asserting authority to establish CWA water quality standards under CWA Section 303(c), 33 U.S.C. § 1313(c), and CWA Section 401, 33 U.S.C. § 1341..

The major surface waters within the Reservation regulatory boundaries are:

1. Padilla Bay
2. Padilla Bay Lagoon
3. Similk Bay
4. Turner's Bay
5. Kiket Bay
6. Lone Tree Lagoon

[1] Although the Tribe believes that the Reservation boundaries extend farther than those described herein, it is asserting regulatory authority, for TAS purposes, only to the historical midpoint of the Slough.

7. Lone Tree Creek
8. Skagit Bay
9. Skagit River Delta
10. Snee-Oosh Creek
11. Swinomish Channel
12. Munks Creek
13. Fornsby Creek

The topography of the Reservation creates surface water drainage patterns where waters flow freely from lands owned by the Tribe or Tribal members to nonmember-owned land or from nonmember-owned land to Tribal lands. See Topography of the Swinomish Reservation, Exhibit 31 to the First Supplemental Submission. Virtually all of the water that falls onto or passes through the Reservation either flows down hill to the resource-rich tidelands and/or estuaries of the Swinomish Reservation, and/or contributes to aquifer recharge. A report prepared by the United States Geological Survey, "Reconnaissance Hydrogeology and Water Quality of the Swinomish Indian Reservation, Skagit County, Washington, Water Resources Investigation Report 96-4031 (1998), Exhibit 32 to the First Supplemental Submission, describes the ground water within the Reservation as discharging into adjacent salt-water bays and sea-level marshes and mudflats. The Report also describes how precipitation is the source of recharge to the ground water reservoir, which is a drinking water and public water supply source for the Tribe. Storm water from both Tribally-owned and nonmember lands is generally combined in outfalls that discharge to tidelands, due to the interspersed pattern of land ownership within the Reservation boundaries. As described below and detailed in the Initial Application, because nonmember fee parcels or leased parcels are primarily located along the shoreline and Reservation water bodies, the activities on nonmember fee or leased parcels have or may have a disproportionate effect on the environmental qualities of tidelands, water bodies, and groundwater aquifers because of the proximity and concentration of their parcels, and due to the topography and drainage/recharge patterns of the Reservation.

B. Role of Functions Authorized under the Clean Water Act in Protecting the Tribe's Ability to Use and Benefit from its Water Resources

This section contains information about nonmember activities that may affect water quality based upon the actual or potential impacts of nonmember activities. It begins by addressing how the Clean Water Act water quality management functions that the Tribe proposes to carry out can protect uses of Tribal waters and summarizing why the Tribe believes it is important to carry out those functions. It then describes how, if unregulated, activities like those that take place on the Reservation can cause water quality degradation. The next section discusses specific examples of nonmember activities currently taking place on the Reservation,

on both Tribal and nonmember land, to illustrate how those actual and potential nonmember activities affect or may affect the Tribe. The information considered in these Findings of Fact is drawn from the Application, supplemental materials, and the court decisions cited.

1. Clean Water Act Water Resource Protection

The Clean Water Act and subsequent amendments call for the maintenance and restoration of the physical, chemical and biological integrity of waters of the United States. Water quality standards are provisions of federal, state, or tribal law that consist of designated and existing uses, water quality criteria to protect those uses, an antidegradation policy, and other general policies that affect the implementation of the standards, such as mixing zone and variance policies. Water quality standards serve the dual function[s?] of establishing water quality goals for specific water bodies and serving as the regulatory basis for water quality-based treatment controls and strategies. The objective of the Act, maintenance and restoration of the integrity of the nation's waters, is directly related to water quality standards that are intended to ensure the full protection of all existing uses and designated uses identified by states and tribes.

Tribal water quality standards are intended to protect the beneficial uses and water quality of reservation waters. In addition to designated uses and criteria, water quality standards include antidegradation provisions that protect all existing uses of surface waters regardless of whether such uses are actually designated in water quality standards. Antidegradation requirements also serve to maintain and protect high quality waters and waters that constitute an outstanding national resource. Further, antidegradation requirements can be utilized by tribes and states to maintain and protect the quality of surface waters that provide unique cultural or ceremonial uses.

In the First Supplemental Submission, the Tribe summarizes the Application as showing degradation of water quality within the Reservation that has caused serious and substantial harm to the political integrity, economic security, and health and welfare of the Tribe and its members by damaging fisheries resources, contaminating and forcing closures of certain surface waters vitally important to the Tribe and its members for subsistence fishing and cultural purposes, and reducing the quantity and quality of drinking water sources. The First Supplemental Submission also provides detailed descriptions of other actual or potential effects of nonmember activities on Reservation water quality and, therefore, on the Tribe and its members. The Tribe specifically emphasizes that water quality degradation:

- Interferes with the Tribe's and Tribal members' treaty right[s?] to engage in subsistence, ceremonial, and commercial fishing and shellfishing within the Reservation;
- Threatens the health of Tribal members by decreasing the safety of food sources that have been historically and are currently essential to the diets of Tribal members. The First Supplemental Submission includes a recent study conducted by the Tribe under an EPA grant, which concludes that Tribal members consume significantly more fish and

shellfish than nonmembers, and that bioaccumulated toxics in subsistence-harvested shellfish gathered on and around the Reservation pose a substantial risk to the health of Tribal members. See "Bioaccumulative Toxics in Subsistence-Harvested Shellfish: Contaminant Results and Risk Assessment" (2006), Exhibit 36 to the First Supplemental Submission;

- Reduces the availability of fish and shellfish for culturally and spiritually important ceremonial purposes;
- Interferes with the Tribe's ability to perform the essential governmental function of providing safe public water supplies within the Reservation;
- Decreases the quantity and quality of water available to satisfy Tribal members' daily needs;
- Decreases the amount of income from fishing and shellfishing the Tribe and its members can generate;
- Decreases the amount of revenues the Tribe can collect from levying taxes upon the sale of fish and shellfish because the quantity of those food stocks is diminished;
- Increases the risk that Tribal members will suffer disability, disease, and death caused by exposure to contaminated drinking water from Reservation aquifers and streams; and
- Threatens the health of Tribal members who have physical contact with, or accidentally swallow, contaminated water during fishing, shellfishing, cultural, and recreational activities on Reservation waters.

2. The Importance of Protecting Fish and Shellfish

The Tribe and its members use Tribal waters for fishing and shellfish harvesting and are heavily dependent on fisheries resources, especially native salmonids and various species of shellfish. The Reservation is surrounded by substantial marine and estuary resources that are used and relied on by the Tribe and its members. Protecting water quality can prevent or limit water quality-degrading activities that harm fish and shellfish that live in Tribal waters or that have an adverse effect on the habitat upon which the fish and shellfish depend. Activities that degrade water quality and threaten or harm fisheries resources can cause serious and substantial harm to the political integrity, economic security, and health or welfare of the Tribe and its members by threatening food sources and sources of income and tax revenue; undermining the effectiveness of significant expenditures by the Tribe for the purpose of natural resource protection, habitat restoration, and fish and shellfish management; and reducing the availability of fish and shellfish for culturally and spiritually important ceremonial purposes.

The Initial Application states that up to seventy percent of the Swinomish Tribe's subsistence traditionally came from fish and shellfish. Ruby, Robert H. and Brown, John A., *A Guide to the Indian Tribes of the Pacific Northwest* 230-31 (1986). Although the diets of Tribal members have become much more diverse during the past century and a half, salmon and, to a lesser extent, shellfish are still nutritionally and culturally central to the Tribe. The Tribe has

treaty rights to fish and shellfish, and consumes both types of fish in greater quantities than the public at large.

Fish and shellfish are also important economically. The Tribe's Chairman, Brian Cladoosby, and several other Tribal Senators are employed as professional fishers, as are numerous other tribal members. The Tribe issues approximately 450 licenses per year for salmon fishing, halibut fishing, and various types of shell fishing, and issues an additional fifty or more licenses per year for hunting. In 2006, fishing and shellfishing brought in a total of $3,531,314.47 to the Tribe and Tribal members, compared with $2.9 million in 2004 and $3.1 million in 2005. *See* Swinomish Catch Summary Revenue (2006), Exhibit 33 to First Supplemental Submission; Fish Management Swinomish Tribal Community 2005 Report, Exhibit 8 to the Initial Application; Swinomish Fisheries Annual Report, Exhibit 9 to the Initial Application. The Tribe also derives revenue from taxing the sale of fish and shellfish. Fish and shellfish are important culturally, spiritually, and for ceremonial purposes. A tradition of the SITC is to serve smoked salmon at virtually every Tribe-sponsored dinner, and Dungeness crab is also served whenever it is in season.

Water quality management protects fish and other aquatic life, and ensures the health and safety of Tribal members who use the fish or shellfish as a food source. A study of shellfish contamination conducted by the SITC with funding from an EPA grant is reported in "Bioaccumulative Toxics in Subsistence-Harvested Shellfish: Contaminant Results and Risk Assessment" (2006), Exhibit 36 to the First Supplemental Submission. That Report identified a number of potential sources that contribute to the contamination of shellfish resources gathered by members of the Tribe, and concluded that members of the Tribe consume significantly greater quantities of fish and shellfish than nonmembers and that bioaccumulated toxics in shellfish gathered on and around the Reservation pose a substantial risk to the health of Tribal members. Since the Tribe and its members use and rely on shellfish to achieve the Tribe's economic, subsistence (food), ceremonial/cultural, aesthetic and educational/scientific goals, identifying and controlling potential sources of contamination is necessary. Fully protecting aquatic life use also helps ensure the economic well-being of both the Tribe and its members who harvest fish and other aquatic life, or who rely economically on water-based recreation businesses.

Fish and shellfish resources are important to the economy of the Tribe and its members. That economic importance arises from the income to the Tribe and its members from the sale of fish, from the value of the fish they eat, and from revenue the Tribe derives from taxing the sale of fish and shellfish. The average income among members of the Swinomish Tribe, like those of many tribes, is well below the average income of nonmembers in Skagit County, which is adjacent to the Reservation, and other nearby areas. In 1993, economist Phillip Meyer estimated that permitting tribes collectively to take a fifty percent share of shellfish, as was subsequently allowed, *United States v. Washington*, 873 F. Supp. 1422 (W.D. Wash. 1994), *aff'd in part and rev'd in part,* 157 F.3d 630 (9th Cir. 1998), would raise the Tribal per capita annual income by over $2,000, which equated to an average increase in income of over thirty percent. Exhibit 10

to the Initial Application at p. 30; *see also* Excerpt adapted from Meyer Resources, Inc., 1997: "Northwest Tribal Values on the Land: A Study of Values that Northwest Tribes Associate with Streams, and with Associated Land Areas in Watersheds. A Report to the Northwest Indian Fisheries Commission, Olympia, WA," attached as Exhibit 12 to the Initial Application.

A 2005 report by Mr. Meyer indicates that thirty-six percent of Swinomish members live in poverty (compared to eleven percent of Washington State residents). *See* Philip A. Meyer, "A Review of Two Documents from the Washington Department of Ecology" (March 15, 2005), at 5, attached as Exhibit 13 to the Initial Application. This figure is corroborated by a 2001 Bureau of Indian Affairs unemployment statistic for the Tribe that shows nearly 42% of those 16 or older on the Reservation are unemployed. *See* Letter from DSHS, attached as Exhibit 14 to the Initial Application. This information shows the economic importance of the Reservation fish and shellfish resources to the Tribe and its members. A loss of these resources to the Tribe and its members, valued at approximately $3,530,000 for 2006, would have significant adverse affects to both individual tribal member income and tribal governmental services funded in part from revenues derived from the levying of taxes upon the sale of fish and shellfish.

3. The Importance of Protecting Water Resources that Serve as Wildlife Habitat

The Application, in addition to explaining the role of Reservation waters in protecting the ability of the Tribe and its members to catch fish and shellfish for commercial, subsistence, and ceremonial purposes, also describes the many other uses the Tribe makes of Reservation waters. Those uses include habitat for plants and wildlife, swimming and hunting, a source of drinking water, and spiritual and cultural purposes, including spiritual bathing. The Initial Application includes a chart at p. 45 that describes the cultural, economic, and environmental importance of each of the water bodies on the Reservation.

Water quality management protects wildlife and habitat by helping ensure that birds, mammals, reptiles, and amphibians, and plant species and flora that use and depend upon Reservation waters as a source of water, food, and/or habitat will maintain the species diversity and productivity that the Reservation lands and waters are capable of supporting. Protection of beneficial wildlife use protects the biota that use Reservation waters, including threatened and endangered species (e.g., bald eagle, Chinook salmon, bull trout, and steelhead). This protection enables the Tribe to achieve its fisheries, cultural, recreational, scientific, educational, and economic goals, and enhances the Tribe's long-term economic security by preserving the value of wildlife resources. The Tribe, moreover, has treaty rights to hunt and fish, and protection of wildlife and habitat enhances and protects those rights. Finally, protecting wildlife safeguards Tribal members and nonmembers from ingesting toxins that may accumulate in the tissues of wildlife.

4. How Protecting Reservation Waters Protects Water Resources and Wildlife Important to the Tribe and Tribal Members

The Application provides a detailed description of the specific Reservation water resources, the wildlife that depend upon those resources, and how the Tribe and its members utilize those resources.

Padilla Bay. The Padilla Bay ecosystem is unique and vital to ensuring salmonid fisheries survival and abundance and the health of numerous other important species. In addition to providing important food sources for many aquatic and wildlife species, the ecosystem also provides breeding areas for two endangered species, bald eagle and peregrine falcon, which are located within the surrounding watershed. A heron rookery, brandt graveling area, and seagull rookery are also located in the watershed at the edge of the Swinomish Reservation. The Tribe has traditionally used Padilla Bay for fishing of salmon, hunting of birds, and harvesting of shellfish, especially crabs. A large area of the non-Reservation portion of Padilla Bay has been set aside as a National Estuarine Research Reserve.

Similk Bay and Turners Bay. Shorelines in Similk Bay have been designated as shorelines of statewide significance by the State of Washington. Turners and Similk Bays are environmentally sensitive due to the abundant wildlife and aquatic life that rely on them as habitat for spawning, feeding and refuge. Both bays offer spawning habitat for herring with eelgrass beds that extend well up into the tidal drainage channel of Turners Bay. The salt marshes and freshwater wetlands of Turners Bay also provide important habitat for juvenile salmonids, including coho salmon that have been found in the upper bay (Wyman, unpublished field report, 1996). The sand and gravel shores host spawning habitat for smelt and sand lance (Penttila, WDFW, 2000). The Application notes that these waters have been heavily utilized for subsistence shellfish harvesting, and that tidal fish traps and other methods are used to catch salmon, smelt, herring and steelhead. The shellfish resources include littleneck and manila clams, which are significant species to the subsistence harvest of the Swinomish Community. Eagles, herons and other waterfowl frequent the shallow waters of these bays to feed and seek refuge, as do harbor seals and fish, and Tribal members hunt duck in these areas.

Kiket Bay and Lone Tree Lagoon. Kiket Bay is a broad, 36-meter deep basin semi-enclosed by barrier islands and bedrock reefs. Hope Island and the reefs extending between Lone Tree Point and Hope Island mark the southern boundary of the bay, while Kiket Island and Skagit Island mark the northern boundary. An arm of rock extending from Lone Tree Point encloses a small estuarine salt marsh to the north, known as the Lone Tree Creek Lagoon that drains completely or nearly completely at low tide. The Application describes bull kelp forests and small eelgrass beds growing in the subtidal zone immediately off Lone Tree Point. Shellfish, salmon, seals, crabs and other marine life are found there, as are numerous other bird and wildlife species including bald eagles, herons, osprey, deer, red foxes, bobcats, elk, and many other small mammals. Juvenile salmonids make use of the shoreline all around the bays.

Historically, and continuing to the present, Lone Tree Point has been the site of a culturally valuable traditional Tribal beach seining operation to catch salmon including pink, humpies, and coho, which continues currently. Kiket Bay has also been utilized for subsistence shellfish harvesting, and salmon, smelt, herring, and steelhead fishing. Tribal members also utilize the beaches at Lone Tree Point for subsistence and ceremonial fishing, crabbing, and shellfish harvesting and family and Tribal recreational activities.

Skagit Bay and the Skagit River Delta. Shorelines in Skagit Bay have been designated as shorelines of statewide significance by the State of Washington. These waters are environmentally sensitive due to the abundant wildlife and aquatic life that rely on this habitat for feeding and refuge. Smelt and sandlance spawn along the Snee-Oosh shoreline. Eagles and heron and other waterfowl frequent the shallow waters of Skagit Bay to feed and seek refuge, as do harbor seals and fish. The salt marsh and mudflat ecosystem within Skagit Bay is important to ensure salmonid fisheries survival and abundance. These wetlands also serve to improve water quality. The waters of the Skagit River Delta are environmentally sensitive due to the abundant wildlife and aquatic life that rely on this habitat for feeding and refuge, especially juvenile and adult salmonids, eagles, waterfowl, and nesting seagulls. The wetland is host to a diverse community of birds, waterfowl, and other wildlife. Eagles frequently hunt in the area and nest nearby. A seagull rookery is located on one of the grass islands. Juvenile salmonids migrating out of the Skagit River system also utilize the wetland's rich habitat. Aquatic plants also grow throughout the wetland. The wetland system itself also serves important water quality and hydrologic functions. Historically, Skagit Bay was the site of a community salmon fishing camp and a Tribal fish trap. Currently, Tribal members use the waters of Skagit Bay and the Skagit River delta for subsistence and commercial fishing and shellfishing, duck hunting, and swimming.

Swinomish Channel. The waters of the Swinomish Channel are important to members of the Tribe and to the abundant wildlife and aquatic life that rely on this habitat for feeding and refuge. Tribal Community members use the Channel for fishing, swimming, crabbing, hunting, boat moorage, and navigation. The lowlands along the north part of the channel are home to numerous migrating birds and waterfowl following the Pacific Flyway. Eagles and herons and other waterfowl frequent the shallow waters of these bays to feed and seek refuge, as do harbor seals and fish. Sea otters, seals, peregrine falcons, cormorants, kingfishers and other wildlife also make use of the area. Extensive networks of wetlands in the lowlands off the shore provide shelter and food for the birds. The salt marshes provide important habitat for juvenile salmonids. These wetlands also serve to improve water quality. The shorelines of the Swinomish Channel have been designated as shorelines of statewide significance by the State of Washington.

C. Potential Effects of Unregulated Human Activities on Tribal Resources

Twenty-six percent or almost 2,700 acres of Reservation land is held in fee by non-members. Much of that land is currently classified as rural residential. Other current fee land zoning classifications include forestry, agriculture, and urban residential. Additionally, several non-tribal businesses are located on leased Tribal trust land, including a log yard and towing operations conducted by barge in the Swinomish Channel, a fish processing plant, a boatyard, and a campground and RV park. Many non-tribal residences are also located on trust land, including a gated residential community. Finally, a portion of trust land is leased by nonmembers for agricultural use, including the cultivation of row crops. As shown below, activities by non-members on both trust and fee lands have the potential to directly affect the Tribe's political integrity, economic security, or health and welfare.

Agricultural and forestry practices may potentially cause increases in water turbidity and deposition of fine sediments in streams, rivers, and tidelands that may adversely impact water bodies in many ways. Turbidity and fine sediments can negatively affect aquatic life in Tribal waters by reducing photosynthesis of plant life, interfering with the ability of fish to sight-feed, smothering fish eggs and insect life, and reducing the habitat available for food organisms and spawning of fish.

Increased turbidity and sediment deposition can also result in a lower growth rate of fish from loss of food resources and/or elimination or significant reduction of spawning success in streams. Fish populations may decline in the streams, rivers and tidelands to which they are tributaries.

Diversion of surface water for agricultural or other uses that is returned to surface water bodies after use can result in harmful effects on water quality and the integrity of aquatic communities by increasing stream temperatures and by the loss of physical habitat for fish and other aquatic life. Increased stream temperatures may exceed levels necessary for optimum growth, cause direct mortality, or prevent successful spawning and survival of cold water fish such as salmon and bull trout.

Agricultural runoff, carrying constituents from fertilizers, insecticides, herbicides, and fungicides, is a significant source of water quality degradation nationwide. Increases in loading of nutrients (primarily nitrogen and phosphorus compounds) can result from both precipitation and irrigation. These nutrients can stimulate undesirable increased growth of vegetation in water bodies. High concentrations of phytoplankton (microscopic plants) or larger plants are known to result in undesirable changes in water quality on a daily or seasonal basis. For example, excessive vegetation may result in very low levels of dissolved oxygen during dark hours when photosynthesis does not occur but respiration continues. Stimulation of plant growth from excessive nutrients may result in low dissolved oxygen and fish kills.

Increases in loadings of ammonia, chlorine, and oxygen-demanding (biochemical oxygen-demand, or BOD) substances may result from improper operation or accidents occurring at on-site septage disposal facilities that discharge into Tribal waters. Because rather small shifts in pH and temperature can significantly increase the toxicity of ammonia, effects of discharges on the growth and survival of aquatic life may occur downstream from discharges.

Ammonia and its breakdown products may also serve as nutrients for excessive plant growth and as sources of oxygen demand, which can lower oxygen levels in Tribal waters. Chlorine has direct toxicity to aquatic life at very low levels and may directly affect the growth, reproduction and survival of aquatic life. Increases in BOD loading can result in reduced oxygen levels, which affect aquatic life survival, growth, and productivity.

Herbicides and pesticides used for agriculture, forestry and residences can be transported to surface and ground waters by precipitation and run-off or through irrigation. Depending on the concentrations, this may cause direct mortality or reduction of growth and reproduction in fish and invertebrates. Tribal members may also face increased health risks from exposure to herbicides and pesticides present in fish flesh or drinking water taken from Tribal water bodies or from ingestion of wildlife that feed upon aquatic plants or animals in Tribal water bodies. Studies have found elevated levels of herbicide and pesticide levels in agricultural areas around the United States.

D. Examples of Impacts of Nonmember Activities that May Impair or Have the Potential to Impair Water Quality and Beneficial Uses of the Tribe's Waters

The Tribe asserts that contamination of the surface water resources on the Reservation has a direct, serious and substantial effect on the political integrity, economic security, or health, or welfare of the Tribe. In its Initial Application and First Supplemental Submission, the Tribe provided information regarding actual or potential Reservation activities that degrade water quality. Those activities harm the Tribe by damaging the fisheries, contaminating and forcing closures of certain surface waters, and reducing the safety of drinking water sources.

The following discussion provides examples of how current nonmember activities on Tribal lands and nonmember-owned fee lands within the Reservation affect Reservation water quality.

1. Residential Land within the Swinomish Reservation

Residential activities on nonmember-owned lands could potentially impact Tribal interests through releases of contaminants such as household chemicals, household cleansers, solvents, heating oil, fertilizer, herbicides, insecticides, septage, coliform and noncoliform bacteria, and effluents from hobby farms. A large percentage of non-member fee lands are located along Reservation shorelines, immediately adjacent to tidelands held in trust for the Tribe

and to water bodies surrounding the Reservation, including the Swinomish Channel, Similk Bay, Kiket Bay, and Skagit Bay. Urban residential use increases impervious surfaces, thereby increasing run-off and the likelihood that damaging materials will enter watercourses. These runoff pollutants include the nutrients derived from fertilizers, automotive wastes, failing septic systems, and other sources. Because fresh water will generally "float" over denser seawater before gradually mixing with the seawater, species that reproduce, live, or feed in the inter-tidal zone or in the upper portion of the water column are particularly vulnerable to contaminated freshwater input. Thus, collectively, residential land use causes increases in temperature, turbidity, quantity of water in the streams during rainy periods (due to increased run-off), and toxics, and decreases of dissolved oxygen.

The effects of failing septic tanks associated with residential use have been documented at Similk and Turners Bays, where shellfishing areas have been closed at times due to fecal coliform levels that exceed Washington Department of Health safe levels. All of the Reservation land adjoining Turner's Bay is residential fee land, and along Similk Bay within the Reservation, approximately two-fifths of it is individual trust land and three-fifths of it is fee land. About half of the uplands draining to Similk and Turners Bays are within the boundary of the Swinomish Indian Reservation. Increased bacterial levels are believed to be related to failure of septic systems on residential parcels along the Bays' shoreline both on- and off-reservation. In recent years, Skagit County and the Tribe have undertaken ongoing septic system repairs and upgrades, both on- and off-Reservation, to limit bacteria inputs into the bay.

Kiket Bay shoreline is more built-out than Similk and Turners Bays, with homes lining the shore north and south of Lone Tree Point. The homes have on-site septic systems and private or community wells. The uplands have had significant logging that also can impact the water quality of the bay. Water quality of Lone Tree Creek Lagoon is affected by contamination carried by Lone Tree Creek as a result of passing through a large recreational vehicle campground, as discussed further below.

Snee-Oosh Creek flows from a large forested wetland near the crest of the Reservation uplands and enters the bay at the northern edge of the mudflats. Non-point pollution in the Snee-Oosh Creek sub-watershed comes entirely from on-Reservation sources. Existing potential pollution sources include runoff from lawns, gardens, parks, and roads, as well as forest and construction practices. Increasing development and use of groundwater resources within the Snee-Oosh Creek watershed may be impacting groundwater base flow, which provides all of the creek flow during most of the summer. Low flows can cause fine substrate sediments to settle into interstitial spaces between gravels, impacting macroinvertebrate organisms and potential salmonid spawning habitat. Additionally, low flows create geomorphic conditions that can result in the evolution of low habitat complexity, which limits biotic diversity. Low flows also create shallow conditions that result in increased thermal warming (high temperatures) and associated low dissolved oxygen that can kill fish and other aquatic life. The sources of ongoing, sporadic fecal coliform contamination are unknown but may be related to failing septic systems, human and animal activity, or storm runoff. Dissolved oxygen is often measured at low levels during

summer months. Future increases in housing density may potentially introduce more of the same kinds of pollutants into Snee-Oosh Creek.

The Tribe enacted a Stormwater Management Code in 2004 to address the adverse impacts to surface waters that were occurring during the construction of residences and other buildings on the Reservation. The Supplemental Submission states that "stormwater run-off from nonmember construction activities often flowed in brown silt-laden rivulets directly onto tidelands or into fresh or marine waters within or surrounding the Reservation." The Tribe's Code now requires that any construction project adding 2000 square feet or more of impervious surface must obtain a stormwater permit from the Tribe, usually in connection with a building permit. The stormwater permits issued by the Tribe require control of run-off with a variety of methods, including silt fences, tarps over soil piles, stabilization of slopes, straw mulch, and bales. At larger construction sites, the permit may require construction of bioswales, settling ponds, and other treatment practices.

The First Supplemental Submission describes a number of examples of where non-member residences along the shorelines have created unauthorized shore defense works on adjacent tidelands, including bulkheads, revetments, and soft shore blocks. The "Nearshore Structure Survey of Swinomish Indian Reservation: Adapted Procedures and Preliminary Results" (2005), Exhibit 18 to the First Supplemental Submission, describes how non-members routinely place unauthorized structures on the tidelands that are held in trust, such as fill, decks, boathouses, stairs, piers, pilings, boat ramps, mooring buoys, and aquaculture equipment. Physical alteration of tidelands decreases the tideland area, storm berm and beach resiliency and stability, and the quantity and quality of fish, shellfish, and spawning habitat.

2. Agricultural Lands within the Swinomish Reservation.

As noted above, agricultural land use can cause a number of water quality problems. Like residential use, agricultural use results in increased chemical and nutrient application, which may cause eutrophication, which in turn results in decreased dissolved oxygen and increased temperature, turbidity, and toxics. Agricultural use also is associated with land disturbances, such as tilling and grading, which often increase run-off and/or infiltration, as well as the potential for chemicals to enter waterways and/or groundwater. Finally, certain agricultural uses, particularly hobby farms, result in the introduction of animal waste into streams and groundwater sources. This increases the bacteria and nutrient levels in the watercourses.

One area of the Reservation affected by agriculture is Fornsby Creek. The Fornsby Creek sub-basin drains an area of approximately 252 acres along the hilltop and east slope of the Reservation above the south end of the agricultural lands. When Fornsby Creek enters the agricultural flat lands, the stream channel is confined to diked agricultural ditches until it flows into the Swinomish Channel. Current potential sources of pollution within the lower reach are related to agricultural practices that may contribute nutrients, pesticides, herbicides, nuisance

algal growth due to nutrient loading, temperature degradation due to lack of riparian cover, low dissolved oxygen concentration due to high temperatures, and sediment loading. Fee lands within this sub-basin also overlie the recharge zone for groundwater aquifers. Temperatures are occasionally high and dissolved oxygen may be low during the summer months. Turbidity has been greater than expected 50% of the time. Fecal coliform was also occasionally high. Fornsby Creek is a drinking water source for one household. Recent water quality monitoring has identified high turbidity, low dissolved oxygen concentrations, and moderately high fecal coliform concentrations in the upper reach of Fornsby Creek relative to proposed water quality standards. Potential sources of pollution in the upper reach include failing residential septic systems, logging practices, residential gardening and yard care, and construction activities.

3. Forestry Lands within the Reservation

The SITC zoning map shows that the majority of uplands within the Reservation are zoned for forestry and open space. The Supplemental Submission provided information about the effects of both authorized and unauthorized harvesting of timber. Activities to establish and maintain forests for harvest use pesticides, herbicides and fertilizers, and precipitation can result in run-off of these chemicals into streams and creeks within the Reservation. The building of roads, which increase impervious surfaces, can cause increased run-off, change flow patterns of surface drainage, and increase the likelihood that contaminants will enter surface waters and ground water reservoirs. Tree removal also decreases the amount of precipitation that is absorbed, which also increases the amount of run-off and can cause erosion. Logging within the Reservation and the resulting run-off from logged areas contributes sediments to stream flow and contributes to high turbidity in the Swinomish Channel.

4. Disposal of Industrial Wastes

In 2002, EPA determined that a former disposal site for petroleum wastes located on nonmember-owned fee land on the Reservation was presenting an imminent and substantial endangerment to human health and the environment. The seven acre site was used from 1959 to 1970 to dispose in unlined "ponds" waste materials from the petroleum refineries in nearby Anacortes, Washington, including spent catalysts, effluent plant sludges, spent caustics, slop oil emulsion solids, separator sludge and other materials. In 1970, after wastes were no longer brought to the site, the disposal ponds were covered by wood and soil. In 1998, a site hazard assessment was completed by EPA's contractor, which issued a report entitled "PM Northwest Dump Site Phase 2 Integrated Site Assessment Report," TDD 98-02-0016, August 1999 (the "Phase 2 SI Report"):

> "Results of the [investigation] indicate that organic and inorganic contaminants appear to be migrating from the site." [ ] "Two hundred and thirteen drinking water wells are located within a 4-mile radius of the Site. The Skagit County Public Utilities District has

two formerly-used wells located approximately 0.8 miles north of the Site, and two public drinking water wells operated by the Swinomish Utility and Environmental Services Authority are located between 1 and 2 miles of the Site."

Groundwater samples collected from monitoring wells at the site detected a number of hazardous substances. The site was located on a bluff above the Swinomish Channel, with wetlands below the bluff, and sampling of surface water and sediments in the wetlands detected a number of hazardous substances.

In an administrative order on consent issued pursuant to section 106 of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) by EPA to P.M. Northwest to conduct an emergency removal action, EPA Docket No. CERCLA -10-2000-0186, which also was signed by the SITC, EPA made the following findings in paragraph 14 of the administrative order on consent:

> 14. The presence of the chemicals described in paragraph 13 poses an imminent and substantial endangerment to human health or the environment because chemicals exceed screening or regulatory standards at locations where:
>
> a) There is a potential for the chemicals to be ingested via consumption of groundwater contaminated at levels that exceed screening or regulatory criteria for drinking water;
>
> b) There is a potential for hazardous substances to be ingested via consumption of contaminated natural resources;
>
> c) There is a potential for current or future residents of the area to come in contact via direct contact or inhalation with the hazardous substances in soil that are contaminated at levels that exceed screening or regulatory criteria;
>
> d) There is a potential for adverse impacts to the environment due to the presence of hazardous substances present in wetland surface water and sediments if wetland flora and fauna species are exposed to these hazardous substances;
>
> e) There is a potential for adverse impacts to human health due to the presence of hazardous substances present in wetland surface water and sediments if contaminated flora and fauna are ingested or contact with contaminated wetland media occurs; and
>
> f) There is a potential for adverse impacts to human health and welfare resulting from increased exposures [ ] during cultural activities of the Tribe, including subsistence, ceremonial or religious use of sites or resources.

The site cleanup to abate the threat was successfully completed under the oversight of EPA and the Tribe.

5. Nonmember activities on Tribal land

The Tribe's Supplemental Submissions provide additional information showing examples of nonmember activities on Tribal lands that negatively impact the water quality and beneficial uses of Reservation waters and that have the potential for impacts on the political integrity, economic security, and health or welfare of the Tribe and its members. See Table 2. "Actual or Potential Effects on Water Quality of Non-Member Activity on Trust Land," Exhibit 27 to First Supplemental Submission. As noted below, approximately 970 acres of the 4,610 acres of upland trust lands are leased to nonmembers for a variety of purposes, including industrial, commercial, agricultural, residential and recreational purposes.

One example of how nonmember activities on trust lands can affect water quality and the health and welfare of the Tribe and its members concerns a large campground and recreational vehicle park located on leased trust land that abuts the shoreline and through which Lone Tree Creek flows. The lower reach of Lone Tree Creek flows in a constructed channel through a campground sparsely vegetated with conifers, deciduous trees, and shrubs. Storm-water runoff within the lower reach of the sub-basin is collected in ditches and pipes that discharge to the Creek. The campground operates pump-out stations for recreational vehicles and a sewage lagoon and septic spray field. Different parts of this system may have failed at different times, introducing bacteriological contamination to the Creek from time to time. Lone Tree Creek enters Kiket Bay at Lone Tree Point Lagoon, where elevated bacterial levels have been measured, and which is a sensitive salt marsh wetland used by migrating salmonids. The Lagoon is also immediately adjacent to shellfish beds. Therefore, any pollution carried by the Creek directly impacts important fish and shellfish resources. Bald eagles and osprey also nest in this sub-basin.

The First Supplemental Submission describes in detail the leasing of trust lands within the Reservation to nonmembers for a variety of purposes, including industrial, commercial, agricultural, residential and recreational purposes. These activities generally have similar, but more direct, impacts on the Tribe and its members when they are carried out on trust lands as they do when carried out on nonmember lands. Approximately 970 acres of the 4,610 acres of upland trust lands (21%) are leased to nonmembers. See Map 3, Swinomish Indian Reservation – Leased Areas and Tribal Enterprises (2007), Exhibit 8 to First Supplemental Submission. For the most part, nonmember activities on trust lands within the Reservation are authorized by the Tribe or a member of the Tribe through lease arrangements governed by 25 U.S.C. § 415 and BIA regulations at 25 C.F.R. Part 131. The leases specifically incorporate federal regulations at 25 C.F.R. Part 162 by reference.

The Application includes a number of examples of leases that explicitly require the lessee to comply with SITC law. The lease of a one hundred -plus acre campground requires the lessee to "post the subject property notifying . . . [nonmembers who use the campground] that they are subject to Tribal laws and law enforcement while present within reservation boundaries." Lease

Amendment No. 2 to Campground Lease, ¶ XXXI, attached as Exhibit 15 to the Initial Application. Similarly, numerous residential leases contain language requiring the lessee to abide by tribal law as a condition of the lease. One common clause is that "[i]t is a condition of this lease that the Lessee shall faithfully comply with all ordinances or resolutions, as approved by the Secretary of the Interior, enacted by . . ." the Swinomish Indian Tribal Community. Samples of Residential Leases ¶ 18, attached as Exhibit 16 to the Initial Application. Such leases also contain a provision requiring the lessee to "promptly pay all taxes, assessments, license fees and other like charges levied against the Lessee by the Tribe during the term of the lease." *Id.* at ¶ 19. Another common provision of residential leases is captioned "Observance of Law" and requires the lessee to "observe and adhere to all laws, ordinances, rules and regulations now or hereafter adopted by the Swinomish Indian Tribal Community." More Samples of Residential Leases, § 4, were attached as Exhibit 17 to the Initial Application. Similarly, the two master leases for the gated residential community both require the lessee to "comply with all applicable water pollution control laws . . . in the construction of all sewerage systems, sewerage treatment or disposal plants or systems, or in the improvement or extension of any sewerage plant or sewage treatment or disposal plants." *See* Excerpts of Lease Numbers 5020 and 5086, attached as Exhibit 18 to the Initial Application.

The Application also describes nonmember use of facilities owned by the Tribe or individual members of the Tribe, including the use of rights-of-way and easements on trust lands. Several major thoroughfares, railroads, and natural gas and oil pipelines cross fee and trust lands within the Reservation. See Exhibit 17 to First Supplemental Submission. The Application also describes permits and contracts with nonmembers by which nonmembers are authorized to use Reservation lands, waters or other natural resources. The presence of nonmembers on such lands within the Reservation is usually only by permission from the Tribe or a Tribal member, and the Tribe or Tribal member may exclude nonmembers from lands to which the Tribe or their members hold the fee or beneficial title.

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